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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,060	05/26/2006	Sandrine Dulac	007035.00008	1280
22908 7590 02/01/2011 BANNER & WITCOFF, LTD. TEN SOUTH WACKER DRIVE SUITE 3000 CHICAGO, IL 60606			EXAMINER SAVAGE, JASON L	
			ART UNIT 1784	PAPER NUMBER
			MAIL DATE 02/01/2011	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/596,060

**Applicant(s)**

DULAC ET AL.

**Examiner**

JASON L. SAVAGE

**Art Unit**

1784

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6, 8, 10 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6, 8, 10 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (JP 200303132) in view Shinji et al (JP 08-120389 English Machine Translation).

Ueda teaches an aluminum core material comprising Y between 0.05-1.0% and other elements such as Mn, Ti, Zr, V, Ni, Co and other elements within the ranges claimed with the balance being Al which would be in an amount well over 80% (abs). Ueda further teaches that a core alloy of 3003 aluminum was used and that erosion control elements were added individually and in combination to measure the erosion of the core (par [0023-0027]). 3003 aluminum has a nominal composition comprising Cu between 0.05-0.2%, Si 0.6%, Fe 0.7%, Mn 1.0-1.5% and Zn 0.10% which are all elements which may be employed in the claimed aluminum alloy and all fall within the claimed ranges for each element. Furthermore, Ueda's Sample No. 9 and 10 exemplify embodiments wherein the erosion control element is Y in amounts of 0.04 and 0.12 respectively which would meet the claimed alloy composition of the present invention. Ueda also teaches that the article is a brazed part formed by a fluxless brazing (par [0023])

Ueda further recites that the core metal is coated with a brazing aluminum alloy such as Al-Si with Si being between 6-13.5% by weight (abs). Ueda is silent to the brazing alloy containing one of the claimed elements however it teaches that the braze alloy may contain other elements in a range which does not inhibit the effects of the present invention such as Mg in an amount of 0.5-2.5% (par[0010]).

Shinji teaches an aluminum core material have a surface layer comprising a brazing selected from alloys such as Al-Si, Al-Si-Mg and Al-Si-Mg-Bi alloys (claim 7). Shinji further teaches that a variety of brazing alloys may be applied to the aluminum core such as those typically used for brazing/wax material such as the Al-Si-Mg-Bi alloy (par[0028]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed a typical brazing alloy such as an Al-Si-Mg-Bi alloy for the brazing material for the aluminum core of Ueda with a reasonable expectation of success since they are known to be useful as brazing alloy materials. Regarding the limitation that the recited element modify the surface tension of the alloy, Bi would inherently have the same ability to modify the surface tension of the alloy as that claimed by Applicant.

Regarding the limitation in claim 6 that the brazed part is formed utilizing a fluxless brazing under a controlled atmosphere of nitrogen, the claims are drawn to an article, not the method of making. Absent a showing of how the claimed article formed by brazing under a nitrogen atmosphere would differ from the brazed article of Ueda as modified by Shinji, the recited process limitation would not provide a patentable distinction over the prior art article.

Regarding claims 8 and 10, Ueda is silent to the braze part comprising particles which are possibly coated by a polymer. However, it is known to provide brazing materials in the form of particles which may include a resin as a binder. It would have been obvious to one of ordinary skill in the art to have provided the brazing alloy in any conventional and known form including as particles and/or in a resin binder with a reasonable expectation of success.

***Claim Rejections - 35 USC § 103***

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Ueda (JP 200303132) in view of in view Shinji et al (JP 08-120389 English Machine Translation) as applied to claims 6, 8 and 10 above, further in view of Baba et al. (JP 58-040495).

The prior art teaches what is set forth above but is silent that Bi may be added to the core alloy of Ueda. Baba teaches that an aluminum core material comprising Bi between 0.005-0.3 and other elements such as Mn and Be provides a heat exchanger component having improved corrosion resistance (abs.). The Bi content is taught to be between 0.005-0.3% which overlaps the range claimed by Applicant.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have added other known additives such as Bi as disclosed by Baba (JP 2000-303132) to the Al-Y core of Ueda (US 200303131) with a reasonable expectation of success of providing a component having enhanced corrosion resistance.

### ***Response to Arguments***

Applicant's arguments filed 11-22-10 have been fully considered but they are not persuasive.

Applicant argues that the claimed article is drawn to a brazed part formed by fluxless brazing under a nitrogen atmosphere which is not taught or suggested by the prior art. However, as was set forth above, the claims are drawn an article, not the method of making. Absent a showing of how the claimed article formed by brazing under a nitrogen atmosphere would differ from the brazed article of Ueda as modified by Shinji, the recited process limitation would not provide a patentable distinction over the prior art article. Applicant has not provided any evidence showing that the article of Ueda would differ from the article formed by the recited process.

Applicant further argues that since Ueda discloses other elements may be added within the ranges of ***not inhibiting the effects*** of the present invention, this would be a **dissuading teaching** to modify the composition of Ueda by adding another element such as Bi as proposed by the Examiner. Applicant further asserts that since the recited elements of the present invention are intended to modify the surface tension in the instant invention, it would lead one of ordinary skill away from adding the other elements as claimed.

This argument is not persuasive as although certain properties would obviously be modified due to the addition of another alloying element, Applicant has provided no evidence showing how the addition of Bi to the brazing alloy of Shinji would **inhibit the**

**effects** of the invention of Ueda. As such, the assertion that since the present invention teaches elements such as Bi alter the brazing properties in some manner constitutes a teaching away from utilizing any element not explicitly recited in the prior art of Ueda is not persuasive.

Applicant also states that one of ordinary skill would be directed away from the use of Y in the alloy since Ca and Li are described as particularly preferable. However, Ueda clearly teaches that Y may be employed and exemplifies embodiments containing Y in the amounts claimed. As such, the assertion that one of ordinary skill in the art would be directed away from using an element which is explicitly recited as being suitable for use is not persuasive.

Applicant reiterates the argument that even if Y is used in the core, additional elements not explicitly recited means risk of inhibiting the effect of Ueda's invention. As set forth previously, Applicant's assertion that one of ordinary skill would not utilize a known brazing alloy containing one of the recited elements because it might inhibit the effect of Ueda's invention is not persuasive. Applicant has not produced any evidence demonstrating how the recited element would inhibit the effect of Ueda's invention.

Applicant argues that one of ordinary skill in the art would not modify the invention of Ueda utilizing the teachings of Shinji as Shinji is directed to a completely different problem as the one solved by the claimed invention. Applicant also states that Shinji is directed to a different brazing process and not brazing under a nitrogen atmosphere. However, as set forth above, the claims are drawn to an article, not the

method of making. Applicant has provided no evidence showing how the article formed by the recited process would differ from the article formed by the method of the prior art.

Applicant also argues that since Shinji teaches a core alloy composition containing greater than 1.5% Cu, it would not read on the presently claimed core alloy and it would not be suitable to employ the braze alloy composition disclosed by Shinji for a core alloy containing less than 1% Cu such as claimed.

However, it is well settled that the test of obviousness is not whether the features of one reference can be bodily incorporated into the structure of another and proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and the overriding question to be determined is whether those concepts would suggest to one of ordinary skill in the art the modifications called for by the claims, *In re Van Beekum*, 169 USPQ 47 (CCPA 1971), *In re Bozek*, 163 USPQ 545 (CCPA 1969); *In re Richman*, 165 USPQ 509 (CCPA 1970); *In re Henley*, 112 USPQ 56 (CCPA 1956); *In re Sneed*, 218 USPQ 385 (Fed. Cir. 1983).

In response to the issue whether the reference is nonanalogous art, it has been held that the determination that a reference is from a nonanalogous art is twofold. First, one decides if the reference is within the field of the inventor's endeavor. If it is not, one proceeds to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved, *In re Wood*, 202 USPQ 171, 174. In the instant case, both Ueda and Shinji are generally drawn to brazing aluminum alloys coated on aluminum core materials. As such, it is considered obvious to one of ordinary



skill in the art to have employed other typical Al-Si system brazing alloys including Al-Si-Mg-Bi alloys as taught by Shinji in the invention of Ueda with a reasonable expectation of success.

Applicant argues that Baba is directed to improving the corrosion behaving by creating a sacrificial anode effect for a fin material by adding Sn and that the fin does not utilize the addition of Bi to promote the suppression of a flux when brazing under a controlled nitrogen atmosphere. This argument is not persuasive as Baba is merely provided to show that the addition of Bi to aluminum core materials for providing improved corrosion resistance is known and would have been obvious.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/  
Examiner  
1-27-11

/Jennifer C McNeil/  
Supervisory Patent Examiner, Art Unit 1784